Water Systems Automation

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Hundreds of existing irrigation canals and other water management projects must improve their operations in order to meet increasing demands from agriculture, the environment, and urban areas. Modern data collection, monitoring, and control systems can greatly increase production and water conservation on these projects, but the science and application of canal automation technologies need further development.

Main project objectives are to develop, test, demonstrate, promote, and implement water system automation technology in order to improve irrigation project operations and yield water management benefits.

When it is developed and applied effectively, modern control system technology provides significant benefits to most water projects. This research project has advanced the science through laboratory developments, field installations, and technology sharing with constituents. Instrumentation and software have been successfully developed and tested on the model canal in the Water Resources Research Laboratory. This research project has spawned and assisted several modernization efforts on irrigation projects, including East Bench Irrigation District in Dillon, Montana; Jones Hole Fish Hatchery near Vernal, Utah; and the Colorado River Irrigation Project near Parker, Arizona. These and other projects have confirmed the value of advancements in canal automation technologies and the need for continuing improvement in system integration and implementation.

Over 30 cooperators have participated by contributing in-kind services, instrumentation, and matching funds. These partners include other Reclamation offices, Federal and municipal government agencies, irrigation districts, Native American tribes, and private companies that supplied instrumentation, mechanical components, and software products.

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